

WEST Search History

DATE: Thursday, October 16, 2003

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result set

DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ

L1 (ufg with (graphite or showa)) and (paste or thick film or
screen print\$)

6 L1

END OF SEARCH HISTORY

Business Sectors

Fine Carbon Division

Division Profile

Backed by years of expertise, Fine Carbon Division seeks to explore the unlimited potential offered by carbon. In addition to carbon nanofiber <VGCF™> and fuel battery materials already on the market, we are devoting our energies to the production, development, and the development of applications for various high-functionality carbon products, including battery materials, electronics materials, and materials for alternative energy solutions.

* Fine-Carbon-related Product Line

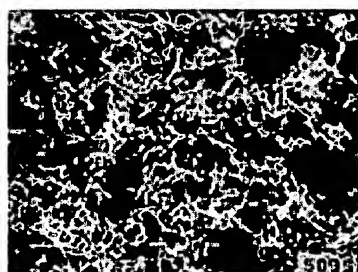
Vapor Grown Carbon Fiber <VGCF™>	*Material for a variety of electrodes for secondary batteries *Electrically/Thermally conductive material (e.g. additives for resin)
Glassy Carbon Composite <SG/SR Carbon>	*For use in fuel cells and a variety of secondary batteries
Ultra Fine Artificial Graphite Powder <UFG™>	*Electrically conductive material (e.g. additives for resin) *For use in a variety of batteries
Homogeneous Graphite <SMG™>	Material for a variety of processed goods
Product under development<SCMG> (anode carbon material for use in Lithium-ion secondary batteries)	Anode carbon material for use in lithium ion secondary batteries

Phone: 81-261-22-0185 Fax: 81-261-22-6442

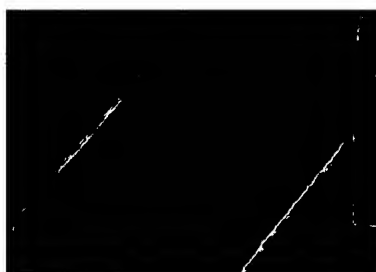


E-mail

<Electron microscopic photograph of VGCF™>



Scanning electron microscope



Transmission electron microscope

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Business Sectors

Fine Carbon Division

Artificial graphite powder

< UFG™ >

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UFG is a high-grade artificial graphite powder produced by our proprietary graphitization technology and treated at ultra-high temperatures of 3,000 °C. It features stable properties, with numerous application, among which are increased lubricity and thermal and electrical conductivity.

* Features

- UFG contains fewer impurities and is more stable than natural graphite.
- UFG offers high thermal conductivity and sliding properties (lubricity) beyond the capacity of carbon black.
- UFG can be loaded into resins at high densities to produce resins with low electrical resistance.
- We offer high production capacity for UFG and are able to immediately fill even large orders.
- Other particle sizes are also available by special order.

Typical properties

	Fixed carbon [%]	Volatile component [%]	Ash content [%]	Sulfur content [%]	True specific gravity [g/cm ³]	Bulk density [g/cm ³]	Particle size distribution	
							Mean particle diameter [μ m]	Cumulative total [%]
UFG-5	98.0 over	1.0 under	1.0 under	0.03	2.2	From 0.1 to 0.2	from 1.5 to 4.5	Larger than 6 μm 20% or less
UFG-10	99.3 over	0.4 under	0.6 under	0.03	2.2	From 0.2 to 0.3	from 2.5 to 6.5	Larger than 12 μm 20% or less
UFG-30	99.4 over	0.4 under	0.6 under	0.03	2.2	From 0.2 to 0.3	from 9.0 to 12.0	Larger than 32 μm 20% or less

* Applications

- To impart thermal and electrical conductivity to resins and rubbers
- To impart sliding properties to resins and rubbers
- To impart sliding properties (lubricity) to metals

- Pore-forming material for ceramics (for manufacturing porous ceramics)

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